

# Drone Strikes in Pakistan

## Reasons to Assess Civilian Casualties

Larry Lewis



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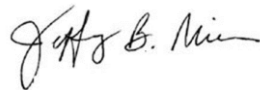
COP-2014-U-007345-Final  
April 2014

| Report Documentation Page  |                                    |                                     |  | Form Approved<br>OMB No. 0704-0188                  |                                    |
|--|------------------------------------|-------------------------------------|--|---|------------------------------------|
| Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. |                                    |                                     |  |   |                                    |
| 1. REPORT DATE<br><b>APR 2014</b>  |                                    | 2. REPORT TYPE                      |  | 3. DATES COVERED<br><b>00-00-2014 to 00-00-2014</b> |                                    |
| 4. TITLE AND SUBTITLE<br><b>Drone Strikes in Pakistan: Reasons to Assess Civilian Casualties</b>   |                                    |                                     |  | 5a. CONTRACT NUMBER                                 |                                    |
|  |                                    |                                     |  | 5b. GRANT NUMBER                                    |                                    |
|  |                                    |                                     |  | 5c. PROGRAM ELEMENT NUMBER                          |                                    |
| 6. AUTHOR(S)   |                                    |                                     |  | 5d. PROJECT NUMBER                                  |                                    |
|  |                                    |                                     |  | 5e. TASK NUMBER                                     |                                    |
|  |                                    |                                     |  | 5f. WORK UNIT NUMBER                                |                                    |
| 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)<br><b>CNA Analysis &amp; Solutions, 4825 Mark Center Dr #<br/>100, Alexandria, VA, 22311</b>  |                                    |                                     |  | 8. PERFORMING ORGANIZATION<br>REPORT NUMBER         |                                    |
| 9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)  |                                    |                                     |  | 10. SPONSOR/MONITOR'S ACRONYM(S)                    |                                    |
|  |                                    |                                     |  | 11. SPONSOR/MONITOR'S REPORT<br>NUMBER(S)           |                                    |
| 12. DISTRIBUTION/AVAILABILITY STATEMENT<br><b>Approved for public release; distribution unlimited</b>  |                                    |                                     |  |   |                                    |
| 13. SUPPLEMENTARY NOTES  |                                    |                                     |  |   |                                    |
| 14. ABSTRACT   |                                    |                                     |  |   |                                    |
| 15. SUBJECT TERMS  |                                    |                                     |  |   |                                    |
| 16. SECURITY CLASSIFICATION OF:  |                                    |                                     | 17. LIMITATION OF<br>ABSTRACT<br><b>Same as<br/>Report (SAR)</b> | 18. NUMBER<br>OF PAGES<br><b>52</b>                 | 19a. NAME OF<br>RESPONSIBLE PERSON |
| a. REPORT<br><b>unclassified</b>   | b. ABSTRACT<br><b>unclassified</b> | c. THIS PAGE<br><b>unclassified</b> |  |   |                                    |

Cover photo: An MQ-9 Reaper, armed with GBU-12 Paveway II laser guided munitions and AGM-114 Hellfire missiles, piloted by Col. Lex Turner flies a combat mission over southern Afghanistan. (U.S. Air Force Photo / Lt. Col. Leslie Pratt)

Approved for distribution:

April 2014



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# Contents

|   |           |
|---|-----------|
| <b>Executive summary .....</b>  | <b>1</b>  |
| <b>Introduction.....</b>  | <b>5</b>  |
| Drones in counterterrorism operations.....  | 6         |
| <b>Drone-strike casualty estimates: Are U.S. government numbers accurate? .....</b> | <b>9</b>  |
| <b>Reasons for discrepancies in civilian casualty estimates .....</b>               | <b>17</b> |
| Misidentification: Impact on civilian casualties and assessments.....               | 20        |
| <b>Platform precision or comprehensive process? .....</b>                           | <b>25</b> |
| Precision versus process.....   | 25        |
| Operational data:<br>Drones more likely to cause civilian harm.....                 | 28        |
| <b>The drone campaign and civilian harm .....</b>                                   | <b>31</b> |
| <b>Assessment: a key element in demonstrating concern .....</b>                     | <b>35</b> |
| Demonstrating concern through consequence management....                            | 35        |
| <b>Conclusions.....</b>   | <b>37</b> |
| <b>Recommendations.....</b>   | <b>39</b> |
| <b>List of figures.....</b>   | <b>43</b> |
| <b>List of tables .....</b>   | <b>45</b> |

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## Executive summary

The U.S. government has described its drone campaign in Pakistan and elsewhere as causing minimal civilian casualties. However, available data—open source data on Pakistan drone strikes, as well as data on air operations in Afghanistan, including drone operations—points to higher casualty numbers than suggested in official statements. Besides their importance to U.S. ethical principles regarding the conduct of war, civilian casualties from U.S. operations also affect national security, fueling threats to the U.S. while simultaneously limiting freedom of action and complicating relations with other nations.

One possible reason for this discrepancy between U.S. government statements and other reports is that civilian casualties from air strikes can be difficult to recognize when they occur. For example, recognition—and thus acknowledgement—of civilian casualties was a challenge in U.S. operations in Afghanistan, and is likely to be even more difficult for operations without a ground force in remote locations such as western Pakistan. This paper explains why official U.S. estimates for civilian casualties caused by drone strikes in Pakistan could reasonably be too low. Factors include an irregular enemy, the challenge of misidentifications, the tendency of air-based assessments to produce inaccurate assessments of resultant harm, and processes that assign civilian status to casualties more narrowly than in applicable international law.

Official statements also feature a common description of the drone platform as surgical with respect to civilian casualties. This suggests a misunderstanding of how civilian casualties occur. The characteristics of a weapon platform—in this case drones—are not the only factor in reducing civilian casualties; other factors like planning and training must be taken into consideration in claims of precision and discrimination. This point is illustrated in Afghanistan, where analysis showed that engagements by drones (2010 – 2011) were ten times more likely to result in civilian casualties than engagements from manned platforms. In that case, failure to recognize and mitigate factors besides

the platform in the targeting process resulted in an increased risk to civilians from the use of drones, despite some desirable characteristics of those systems.

CNA analyzed publically available data to determine the likelihood of civilian harm per strike in the drone campaign in Pakistan. From this data, we see that the U.S. has improved its ability to reduce civilian casualties during drone strikes in Pakistan over the past several years, as measured in the percentage of strikes causing civilian casualties and the number of civilian casualties occurring per incident. However, there remains room for improvement, as drone strikes conducted since 2011 still appear to cause civilian casualties about 8 percent of the time, though this number decreased sharply in 2013. An assessment process could improve this rate, and such a process is briefly outlined at the end of this paper. (A forthcoming paper will provide both additional analysis and a model of an overall assessment process.)

Civilian casualties are one consideration in the debate concerning which department or agency of the U.S. government would be best suited for continuing the drone campaign. We observe that drone strikes in Pakistan were more likely to cause civilian casualties on average than drone strikes by military forces in Afghanistan. Although there are key differences in the two campaigns, this observation warrants further examination (also reserved for a subsequent paper).

Overall, it is both possible and worthwhile for the U.S. to conduct an independent assessment of civilian casualties resulting from drone strikes in Pakistan and elsewhere. This assessment could be provided to the legislative and executive branches to improve transparency and permit proper oversight of these operations. This would also help ensure that official U.S. statements reflect operational realities, helping to guard the credibility and reputation of the U.S. In addition, a process could be put into place to respond to drone-strike civilian casualties with consequence management actions—including amends—when they occur from such strikes. This practice could adapt successful U.S. measures taken in Afghanistan, and would be consistent with recent legislation governing military operations.

Collectively, an assessment process for civilian harm, coupled with measures to address such harm when it is caused, would demonstrate the U.S. concern for civilians while also reducing grievances that can exacerbate threats to the U.S. in the longer term. These initiatives would help the U.S. demonstrate its stated commitment to the responsible use of force and to do all it can to minimize civilian harm in its operations.



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# Introduction

Drones (referred to as unmanned aerial vehicles by the U.S. military) are a recent innovation in warfare, introducing new and important capabilities to the battlefield. For example, drone platforms offer persistence beyond the endurance of manned aircraft, allowing intelligence collection, pattern of life development, and (for armed drones) attack of targets in remote areas. Drones also have intelligence feeds that are distributed to and interpreted by a team of analysts and operators, often far away from the platform. In addition, drones offer an integrated option for collecting intelligence and striking targets in other countries without requiring boots on the ground, avoiding force protection concerns as well as more overt infringements of national sovereignty.

However, some have expressed concerns over the increasing use of drones. These concerns include:

- *Ethical considerations*, such as the effect of the increased distance between the target and person pulling the trigger on decisions regarding the use of force;<sup>1</sup>
- *Legal considerations*, such as the legal basis for the use of force in areas outside of declared areas of armed conflict;<sup>2</sup> and
- *Concerns about civilian casualties and tactics* that are perceived to be associated with drone use, such as double-tapping of targets and signature strikes.<sup>3</sup>

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<sup>1</sup> Peter Singer, "Can Drones and Viruses be Ethical Weapons?" February 28, 2014, <http://www.brookings.edu/research/interviews/2014/02/28-can-drones-viruses-be-ethical-weapons-singer>

<sup>2</sup> UN General Assembly, Report of the Special Rapporteur on the promotion and protection of human rights and fundamental freedoms while countering terrorism, UN Doc. A/68/389 (September 18, 2013).

<sup>3</sup> Human Rights Clinic at Columbia Law School and the Center for Civilians in Conflict, *The Civilian Impact of Drones*, September 2012,

- *The various organizations employing drones and consequent implications for the use of force*, such as respective practices for considering collateral damage and whether they comply with international humanitarian law such as the Geneva Conventions.<sup>4</sup>

In light of these advantages and concerns, a broad public debate has resulted concerning the use of drones. Perhaps the most contentious aspect of that debate involves their use in the U.S. counterterrorism campaign, and specifically the ability to discriminate between terrorists and civilians.<sup>5</sup> This paper examines that issue.

## Drones in counterterrorism operations

The United States uses drone strikes to target members of al Qaeda, the Taliban, and affiliated groups. These drone operations have been conducted both in major theaters of operation (Iraq and Afghanistan) and in a counterterrorism campaign outside of declared theaters of operation (e.g., Pakistan and Yemen). The U.S. justifies its counterterrorism drone campaign based on an imminent threat to U.S. interests and the minimal cost of this approach to civilian lives.<sup>6</sup> In sum, U.S. officials describe drone strikes as both effective and “surgical.” (While there is some controversy regarding the legality of

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<http://civiliansinconflict.org/resources/pub/the-civilian-impact-of-drones>

<sup>4</sup> Charli Carpenter, “Are CIA pilots likelier to comply with international law?” January 22, 2014,

<http://www.whiteoliphant.com/duckofminerva/2014/01/are-cia-drone-pilots-likelier-to-comply-with-international-law.html>

<sup>5</sup> Larisa Epatko, “Controversy surrounds increased use of U.S. drone strikes,” October 10, 2011,

<http://www.pbs.org/newshour/rundown/drone-strikes-1/>

<sup>6</sup> Imminent does not necessarily mean immediate in this context. Under the U.S. interpretation of anticipatory self-defense, the “principle of imminence does not involve a requirement to have clear evidence that a specific attack will be carried out in the immediate future.” See UN General Assembly, Report of the Special Rapporteur on the promotion and protection of human rights and fundamental freedoms while countering terrorism, UN Doc. A/68/389 (September 18, 2013).

the use of force outside of declared theaters of conflict, that topic will not be explored in this paper.)

In the near term, drone strikes appear to weaken enemy networks operating in Pakistan and elsewhere. In the longer term, however, these benefits can be undermined by the tendency of drone strikes to create grievances that can both radicalize populations and increase support for terrorist elements.<sup>7</sup> Also, civilian casualties from counterterrorism operations impact nations in which operations occur. These casualties can reinforce concerns over U.S. encroachment of national sovereignty and create political pressure for those governments. In response, these nations can limit or discourage the conduct of such operations, hindering the ability of the U.S. to respond to imminent threats over the longer term. Thus, civilian casualties from U.S. operations, in the long term, can simultaneously increase the threat to the U.S. and reduce the ability of the U.S. to confront them.

While the U.S. should carefully monitor these concerns, imperatives for immediate action can sometimes trump such longer-term considerations. As an example of this point, the raid on Bin Laden clearly has had longer-term effects on the relationship of the U.S. with Pakistan, but the value of direct action was regarded as paramount in that particular case.<sup>8</sup>

U.S. officials and some academics have described the precision and low collateral damage nature of drone strikes with adjectives such as “surgical” and “humane.”<sup>9</sup> U.S. officials have regularly stated that reducing the risk of civilian casualties is a national priority:

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<sup>7</sup> For example, a number of British Members of Parliament wrote a letter to the U.S. expressing this concern about radicalization from civilian casualties during drone strikes. Letter to the Editor, *The Times* (London), July 26, 2012.

<sup>8</sup> While not accomplished with a drone strike, that raid represents one end of a spectrum with regard to trading off benefits of counterterrorism actions with their potential negative second-order effects.

<sup>9</sup> Such descriptions from academia include Daniel Byman, “Why Drones Work: The Case for Washington’s Weapon of Choice,” *Foreign Affairs*, July/August 2013; Michael W. Lewis, “Drones: Actually the Most Humane Form of Warfare Ever,” *The Atlantic*, August 21, 2013.

- President Obama: "Before any strike is taken, there must be near-certainty that no civilians will be killed or injured – the highest standard we can set."<sup>10</sup>
- Former Deputy National Security Advisor (and current CIA director) John O. Brennan: "We've done everything possible in Afghanistan and other areas to reduce any risk to that civilian population."<sup>11</sup>

While the U.S. government's stated commitment to doing everything possible to minimize civilian harm is laudable, U.S.-reported levels of civilian casualties for operations in Pakistan differ significantly from nearly every other estimate available, including several open-source estimates and a recent UN report.<sup>12</sup> The disparity between the two sets of civilian casualty estimates—those from the U.S. government versus those from nongovernmental and international organizations—raises two salient questions: Who is right, and why is there such a disparity?

This paper explores this disparity and its possible causes, and examines the underlying assertion that drones are inherently surgical, creating a minimal civilian toll. Open source data is then used to show trends in civilian casualties from U.S. drone strikes in Pakistan and illustrate ways to identify root causes of these incidents to inform improvement in future operations.

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<sup>10</sup> Remarks by the President at the National Defense University, Office of the Press Secretary, White House, 23 May 2013.

<sup>11</sup> Ken Dilanian, "Brennan defends U.S. drone attacks despite risks to civilians," *Los Angeles Times*, April 29, 2012, [http://latimesblogs.latimes.com/world\\_now/2012/04/brennan-drone-attacks.html](http://latimesblogs.latimes.com/world_now/2012/04/brennan-drone-attacks.html).

<sup>12</sup> UN General Assembly, Report of the Special Rapporteur on the promotion and protection of human rights and fundamental freedoms while countering terrorism, UN Doc. A/68/389 (September 18, 2013).

## Drone-strike casualty estimates: Are U.S. government numbers accurate?

When examining civilian casualties, it is critical to define what a civilian *is*.<sup>13</sup> For the purpose of this paper, civilians are “those persons who are not combatants (members of military/paramilitary forces) or members of organized armed groups of a party of a conflict.”<sup>14</sup> The term *civilian casualty* refers to the death or injury of a civilian as a result of actions of a combatant entity: the U.S., a coalition partner, host-nation security forces, or insurgents/terrorists. It is important to note that this is a negative definition: per international humanitarian law (IHL), the burden of proof is to determine whether a casualty is a combatant. If this is in doubt, it is to be considered civilian. The consequences of this principle in counting civilians will be discussed later in this paper. Also, a civilian casualty incident is defined as an operation where *civilian harm* is caused. In this paper, the term *civilian deaths* is also used, because it can be difficult to reliably determine numbers of injured civilians; civilian deaths are easier to quantify, though easier does not mean easy.

While it is not necessarily feasible to determine absolute numbers of civilian casualties overall, it is important to estimate the overall levels of casualties in the U.S. drone campaign as accurately as possible. While it might seem as if the U.S. government is best positioned to do

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<sup>13</sup> This paper uses language consistent with the U.S. perspective that the counterterrorism drone campaign is an armed conflict, so that the legal conventions and operating definitions of an armed conflict apply.

<sup>14</sup> United Nations Assistance Mission in Afghanistan, *Afghanistan Annual Report 2011: Protection of Civilians in Armed Conflict* (Kabul: UNAMA February 2012). Also of note, civilians lose their protected status when they are directly participating in hostilities (DPH) or are a part of “levee en masse,” a term from the Third Geneva Convention describing a mass uprising of the civilian population. The author’s position is that such civilians who lose protected status should not be tracked as civilian casualties, or alternately, be tracked separately.

that, this is not necessarily the case, as discussed below. But whatever the U.S. government does know, it does not routinely share this information with others. When it *is* shared, it is typically in the form of quotes from U.S. military commanders and top government officials. While these quotes point to very low numbers, they are not sufficient for generating an estimate.<sup>15</sup> While President Obama recently promised greater transparency with regard to the U.S. drone campaign and its toll on civilians, the actual numbers have yet to be released.

The U.S. government is not the only entity that can estimate the civilian impact of drone strikes. Several other organizations compile and track information on U.S. drone strikes in Pakistan and elsewhere, including the Bureau of Investigative Journalism (BIJ), a media organization headquartered in the United Kingdom, and the New America Foundation (NAF), a U.S. think tank. In addition, a recent report by the U.N. Special Rapporteur, reflecting comments by the Pakistan government, provided another estimate of civilians killed in drone strikes in Pakistan from 2004 to 2013.<sup>16</sup>

NAF and BIJ share a similar methodology of aggregating numbers of casualties contained in news reporting. Both BIJ and NAF aim to increase transparency regarding the drone campaign by compiling data on drone strikes and presenting this data alongside the original reports. Both organizations reference a broad set of media dispatches, an approach that generates estimated ranges of casualties based on sometimes disparate reporting. For example, on August 21, 2012, in Shana Khora village, near Datta Khel in North Waziristan, Pakistan, witnesses saw four missiles from a drone impact a vehicle. BIJ estimated that there were between one and three civilian casualties from this strike, based on several available news reports. Overall casualty totals presented here include both the minimum and maximum

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<sup>15</sup> It is not clear whether or not the U.S. has an existing database of civilian casualties from the drone campaign—akin to the practice of ISAF and U.S. forces in Operation Enduring Freedom—that it could use to derive estimates.

<sup>16</sup> United Nations General Assembly, Report of the Special Rapporteur on the promotion and protection of human rights and fundamental freedoms while countering terrorism, UN Doc. A/68/389 (September 18, 2013).

values for reference; however, the detailed analysis in the later section of this paper uses the minimum number of casualties from these two sources.<sup>17</sup>

While these two organizations share the same general approach, they differ somewhat in the specific sources they use. NAF relies on a group of newspapers it deems reputable.<sup>18</sup> Similarly, BIJ references a set of newspapers considered reliable, but it also considers additional sources, such as WikiLeaks and public interest lawsuit documentation, as well as its own field investigations in Pakistan. The difference in approaches leads to some differences in civilian death estimates from the two organizations.

The UN Special Rapporteur report reflects information provided from the Pakistani government concerning its own estimates of civilian deaths from U.S. drone strikes. Similar to the BIJ and NAF estimates, the UN estimate from the Pakistani government was a range of values, with a minimum and an additional number of possible suspected noncombatants. The Pakistani government also stated that this number should be regarded as an underestimate of the true civilian toll due to challenges of access, investigation, and reporting in Pakistan's Federally Administered Tribal Areas (FATA).<sup>19</sup>

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<sup>17</sup> It has been discussed elsewhere how U.S. official estimates for civilian casualties can tend to be too low while media reports can sometimes be too high; Larry Lewis and Sarah Holewinski, "Changing of the Guard: Civilian Protection for an Evolving Military," *PRISM* 4, no. 2 (2013). The practice of using the minimum value is expected to help reduce the impact of this inflation factor observed in some reports.

<sup>18</sup> NAF uses "the three major international wire services (Associated Press, Reuters, Agence France-Presse), the leading Pakistani newspapers (*Dawn*, *Express Times*, *The News*, *The Daily Times*), leading South Asian and Middle Eastern TV networks (Geo TV and Al Jazeera), and Western media outlets with extensive reporting capabilities in Pakistan (CNN, New York Times, Washington Post, LA Times, BBC, The Guardian, Daily Telegraph)." Ritika Singh, A Meta-Study of Drone Strike Casualties, Lawfareblog.com, 22 July 2013, <http://www.lawfareblog.com/2013/07/a-meta-study-of-drone-strike-casualties/>.

<sup>19</sup> The UN Special Rapporteur "was informed that the Government [of Pakistan] has been able to confirm that at least 400 civilians had been killed as a result of drone strikes, and that a further 200 individuals were



Estimates for total civilian casualties from U.S. drone strikes in Pakistan over the time period of 2004–2013, from BIJ, NAF, and the UN, are shown in figure 1.<sup>20</sup> The minimum numbers from each of these sources are used as the baseline values, with the maximum estimates also provided for reference. While the range is wide—spanning a minimum of 258 for the minimum estimate of NAF to a maximum estimate of 951 for BIJ—the large difference in these values is not hard to explain. First of all, while BIJ has a wide range of possible estimates, it regards the lower end of its estimates to be more likely to approach actual values. This is consistent with analysis for Afghanistan that showed a propensity of some reporting of civilian casualty incidents to have inflated values for high-visibility incidents.<sup>21</sup>

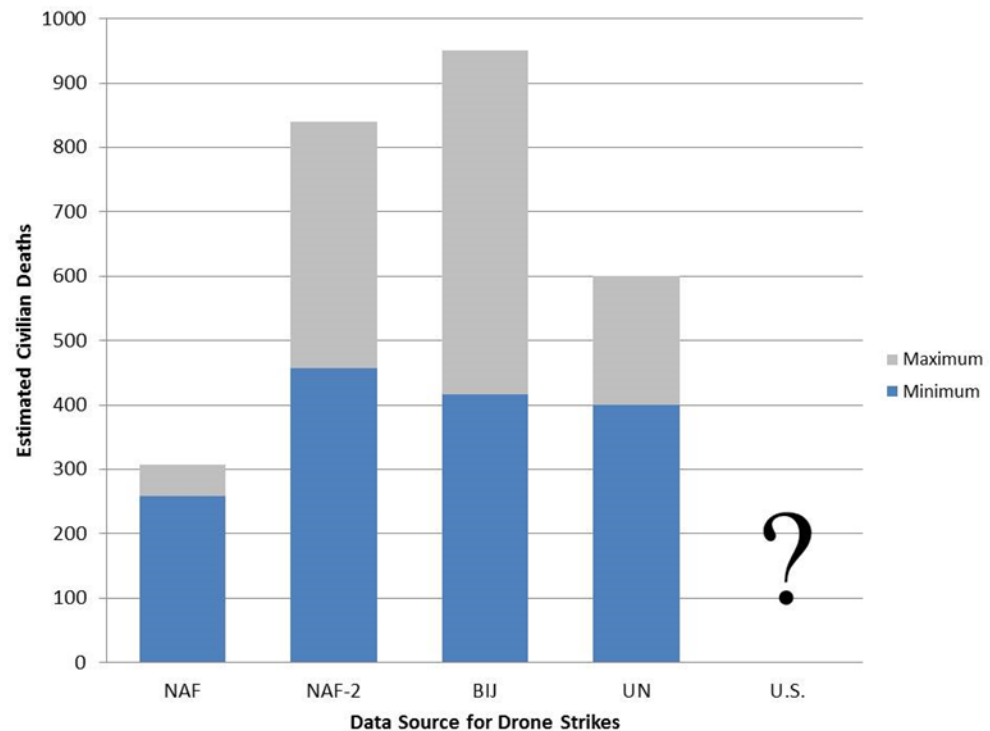
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regarded as probable noncombatants. Officials indicated that due to underreporting and obstacles to effective investigation on the ground these figures were likely to be underestimates of the number of civilian deaths.” Statement of the Special Rapporteur following meetings in Pakistan, 14 March 2013,  
<http://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=13146&LangID=E>.

<sup>20</sup> Numbers for BIJ were derived from BIJ’s database which was provided to the author. Numbers for NAF were posted on their web page:  
<http://natsec.newamerica.net/drones/pakistan/analysis>. Numbers are as of 31 Dec 2013.

<sup>21</sup> Lewis and Holewinski, “Changing of the Guard.”

Figure 1. Disparate estimates for civilian deaths from drone strikes in Pakistan.



In addition, while BIJ has two categories of casualties (civilian and militant), NAF has three: civilian, militant, and unknown. Per international law, individuals of unknown status are to be treated as civilian. There were a minimum of 198 casualties in the NAF data with status of unknown—these should be included in civilian estimates barring evidence to the contrary, increasing the NAF minimum estimate to 456. The column “NAF-2” in figure 1 reflects the addition of these casualties and is more consistent with the other data sources.

Thus the range of values for the UN estimate—between 400 and 600—could be viewed as a reasonable general range based on these considerations. Importantly, the UN source is independent of these two other sources. It is possible, however, that these estimates are artificially low. For example, the Pakistani government acknowledged access limitations that could make its estimate lower than the complete civilian toll. Similarly, observers have noted that some factors could lead the media to systematically underreport casualties, which would

lower both NAF and BIJ estimates compared to actual values.<sup>22</sup> For example, news reports are affected by limited reporter access to the FATA areas, which can result in missing information available only in the local area, as well as reporters' reliance on intelligence channels that may be unaware of the actual extent of civilian harm (for reasons to be discussed later in this paper). Such systematic omissions could cause both BIJ and NAF estimates to be lower than actual civilian tolls, though BIJ estimates should be less affected by this factor due to its multi-source data collection methodology.

While there is no official U.S. estimate to compare to these values, recent public U.S. government comments on the civilian toll of drone strikes suggest significantly smaller numbers of casualties compared to these other sources. For example:

- Former Deputy National Security Advisor John O. Brennan, June 2011: “[Over the past 10 months,] there hasn’t been a single collateral death because of the exceptional proficiency, precision of the capabilities we’ve been able to develop.”<sup>23</sup>
- Senate Intelligence Committee Chair, Senator Dianne Feinstein, February 2013: Numbers of civilian casualties each year for drone strikes overall, including both Pakistan and Yemen, have “typically been in the single digits.”<sup>24</sup>

The process of counting casualties in conflict is not easy—it faces political as well as practical challenges. The fact that senior U.S.

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<sup>22</sup> James Cavallaro, Stephan Sonnenberg, and Sarah Knuckey, *Living Under Drones: Death, Injury and Trauma to Civilians from U.S. Drone Practices in Pakistan* (Stanford, CA: International Human Rights and Conflict Resolution Clinic, Stanford Law School; Global Justice Clinic, NYU School of Law, 2012).

<sup>23</sup> Scott Shane, “C.I.A. Is Disputed on Civilian Toll in Drone Strikes,” *The New York Times*, August 11, 2011, [http://www.nytimes.com/2011/08/12/world/asia/12drones.html?page\\_wanted=all](http://www.nytimes.com/2011/08/12/world/asia/12drones.html?page_wanted=all).

<sup>24</sup> Lee Ferran, Intel Chair: Civilian Drone Casualties in ‘Single Digits’ Year-to-Year, ABC News, 7 February 2013, <http://abcnews.go.com/blogs/headlines/2013/02/intel-chair-civilian-drone-casualties-in-single-digits-year-to-year/>.

officials are repeatedly called to comment on civilian tolls from drone attacks highlights the political dimension of civilian casualties. This political pressure caused by civilian casualties has been seen consistently in recent coalition campaigns over the past several decades, reaching a high point in Afghanistan.

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## Reasons for discrepancies in civilian casualty estimates

There are practical considerations that can make estimating civilian casualties difficult, and that could explain why U.S. casualty estimates are lower than those from other sources mentioned above. Three factors complicate the estimation process: an irregular enemy, misidentifications, and inaccurate assessments of resultant harm.

- **An irregular enemy.** The nature of the enemy in Pakistan, Afghanistan, and other locations can create challenges in positive identification (PID) of enemy combatants and discrimination between the population and the enemy. These challenges result in part from the irregular nature of combatants (e.g., a lack of uniforms and standard equipment limiting the utility of a visual signature for PID, especially within an armed culture) and their practices of co-locating with the local population, using noncombatants as human shields, and claiming—and creating—civilian casualties.
- **Misidentifications.** Misidentifications occur when U.S. forces mistakenly believe civilians to be enemy combatants. In engagements involving misidentifications, because the casualties are believed to be combatants, they are not reported as civilians, and the reality is discovered later (if it is in fact ever discovered by the U.S.).
- **Battle Damage Assessments based on air surveillance.** The process of determining the effects of an engagement on the enemy and the surroundings—typically called battle damage assessments (BDA)—should include an assessment of any civilian toll from the engagement. However, given the irregular enemy and possibility of misidentification, this assessment of civilian toll can be difficult to determine accurately. This is especially the case in situations when the U.S. relies primarily on air surveillance for this assessment. Air assessments are likely to be the predominant method for BDA in the U.S. drone campaign.

These three factors are not specific to Pakistan; rather they are common to many counterterrorism scenarios where airpower is used. These factors are illustrated in the following two incidents from Afghanistan.<sup>25</sup>

**Deh Bala Airstrike.** On July 5, 2008, U.S. military forces targeted airstrikes against what they believed to be enemy combatants in a wooded area in Deh Bala district in Afghanistan's Nangahar province. Shortly thereafter, the local population and media reports claimed that high levels of civilian casualties had resulted from the airstrikes.<sup>26</sup> A U.S. military spokesman immediately denied that there were civilian casualties: "Whenever we do an airstrike the first thing they're going to cry is 'airstrike killed civilians' when the missile actually struck militant extremists we were targeting in the first place. At this time we don't believe we've harmed anyone except for the combatants."<sup>27</sup>

Later it emerged that a group of civilians, walking from one village to another to participate in a wedding, was mistaken for combatants and engaged. Civilians were indeed killed by the U.S. airstrikes, but because the U.S. believed them to be enemy combatants, the civilian toll was not recognized and acknowledged until locals found and recognized the bodies. A subsequent U.S. inquiry confirmed that dozens of civilian casualties resulted from the airstrike.<sup>28</sup>

**Farah Airstrike.** On 4 May 2009, Afghan security forces moved into the vicinity of Shewan in Farah Province to confront a large group of Taliban that had moved into the area. The Afghan forces were

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<sup>25</sup> While processes and operating forces in Afghanistan can differ from those in drone operations in Pakistan, these operations share elements in common. Also, Afghanistan holds the advantage of having established reporting and investigative processes for civilian casualty incidents, facilitating analysis.

<sup>26</sup> "Troops in Contact: Airstrikes and Civilian Deaths in Afghanistan," Human Rights Watch, September 2008.

<sup>27</sup> Afghan officials: U.S. missiles killed 27 civilians, Amir Shah and Jason Straziuso, Associated Press, July 6, 2008, [http://usatoday30.usatoday.com/news/world/2008-07-06-1051356149\\_x.htm](http://usatoday30.usatoday.com/news/world/2008-07-06-1051356149_x.htm).

<sup>28</sup> Human Rights Watch, "Troops in Contact."

ambushed, and a small contingent of U.S. advisors called for reinforcement from close air support and a nearby U.S. Marine Quick Reaction Force. The Marines used airstrikes first to counter enemy attacks and then to target enemy combatants behind the line of battle, including several engagements of compounds.<sup>29</sup> U.S. forces conducted BDA of the airstrikes that impacted close to them, but they did not inspect the later strikes on the compounds in the village due to concerns over the safety of friendly forces.<sup>30</sup>

Reports of civilian casualties quickly emerged in the media, but the U.S. initially denied the veracity of the reports: “It is certainly a technique of the Taliban and other insurgent groups to claim civilian casualties at every event,” said ISAF Commander General David McKiernan on May 6. On May 15, U.S. Marine Corps Commandant General James Conway noted that, “We believe that there were families who were killed by the Taliban with grenades and rifle fire that were then paraded about and shown as casualties from the air strike.”<sup>31</sup>

Shortly after the initial incident, U.S. Central Command (CENTCOM) assembled an investigation team and released an interim report on May 15, confirming that dozens of civilian casualties had in fact occurred due to the U.S. airstrikes. The team’s final report and unclassified summary were released shortly thereafter.<sup>32</sup>

These two examples show how it is possible for the U.S. to conduct airstrikes that harm civilians and yet not be aware of that fact due to

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<sup>29</sup> U.S. Central Command Investigation into Civilian Casualties in Farah Province, Afghanistan on 4 May 2009. U.S.CENTCOM unclassified executive summary, 18 June 2009.

<sup>30</sup> In their role as a QRF, the U.S. Marines did not have the supplies to stay in the area for a prolonged period of time. Also, they believed the Afghan force was in the lead and would be responsible for necessary follow-through actions for the incident.

<sup>31</sup> “Troops in Contact: Airstrikes and Civilian Deaths in Afghanistan,” Human Rights Watch, September 2008.

<sup>32</sup> U.S. Central Command Investigation into Civilian Casualties in Farah Province, Afghanistan on 4 May 2009. U.S.CENTCOM unclassified executive summary, 18 June 2009.



misidentification, inaccurate or missing BDA, and the nature of the enemy. In Afghanistan, after a number of high-profile events, the U.S. military addressed these challenges through additional guidance and procedures. For example, U.S. forces frequently sought to conduct BDA using ground forces when feasible, since ground-based assessments were far less likely to miss instances of civilian harm.

## Misidentification: Impact on civilian casualties and assessments

Though all of the three factors described above – an irregular enemy, misidentifications, and inaccurate assessments of resultant harm – complicate the assessment of civilian casualties in operations, the issue of misidentification is particularly important. In previous analysis of civilian casualties in Afghanistan, the misidentification of civilians as enemy was the basis for the majority of civilian casualty incidents and contributed to a lack of recognition of actual civilian tolls from operations.<sup>33</sup> Two sources contributed to this misidentification:

- **Misinterpretation of actions or characteristics.** In some cases, civilians were targeted because their behavior appeared threatening or their appearance seemed to mark them as enemy forces. For example, a number of Afghan civilians were killed because they were believed to be emplacing IEDs. After they were engaged, it was discovered they were actually digging drainage ditches or doing other agricultural work. In other cases, individuals were targeted because they were believed to be carrying weapons. After the engagement, it turned out that they were holding farming tools or other large objects. And of course, even being armed is no guarantee of nefarious activity. Many civilians—and even Afghan forces—are accidentally killed for this reason.
- **Guilt by Association.** In some incidents, enemy forces were located in close proximity to civilians who were not directly participating in hostilities. However, when U.S. forces engaged

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<sup>33</sup> Reducing and Mitigating Civilian Casualties: Enduring Lessons, JCOA, April 2013.

the enemy forces, the nearby civilians were also believed to be enemy and killed or wounded.

Both of these considerations are illustrated in a single incident in Uruzgan province in Afghanistan in 2010. U.S. forces believed two civilian vehicles to be carrying Taliban fighters with the intent to attack a U.S. Special Operations Forces (SOF) element in the area. A U.S. Predator drone crew misidentified these vehicles as enemy forces through misinterpretation of their actions. When a third vehicle joined the other two, the Predator crew considered the third vehicle to be enemy due to guilt by association. Based on this misidentification, a U.S. helicopter later engaged the three vehicles, resulting in dozens of civilian casualties.<sup>34</sup>

These mechanisms of misidentification can also impact assessments of civilian casualties. Just because civilians are collocated with enemy forces does not mean that the engagement is not permissible: Under U.S. and international humanitarian law such as the Geneva Conventions, it is permissible to use force against an enemy as long as the harm to civilians is not *excessive* relative to the gained advantage from the operation.<sup>35</sup> However, these civilian tolls should be properly acknowledged in follow-on reporting and assessments. In Afghanistan, the U.S. military sometimes initially counted misidentified civilians as enemy personnel. This error was recognized in a subsequent assessment process that re-examined underlying assumptions; then they were counted as civilian. This process is illustrated by the Deh Bala and Farah airstrikes discussed earlier.

A number of independent reports describe drone strikes against buildings, convoys of vehicles, and groups of individuals. In these cases, individuals should not be counted as enemy personnel simply

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<sup>34</sup> This incident is discussed in more detail in the forthcoming paper on a model for civilian casualty assessment.

<sup>35</sup> The US military summarized customary international humanitarian law in this respect: “loss of life and damage to property must not be out of proportion to the military advantage to be gained.” United States Army, Field Manual 27-10: The Law of Land Warfare (Washington, DC: Department of the Army, July 18, 1956, as modified by Change No. 1, July 15, 1976).

based on proximity to a known target. One overarching principle that should inform both engagements and assessments is a tenet of IHL used by international military forces in Afghanistan as well as by the UN: “In case of doubt whether a person is a civilian, that person shall be considered to be a civilian.”<sup>36</sup> Media reports suggest that this has not been the approach guiding official U.S. assessments of civilian casualties in the drone campaign, with descriptions such as: the U.S. “counts all military-age males in a strike zone as combatants... unless there is explicit intelligence posthumously proving them innocent.”<sup>37</sup> If true, this approach is inconsistent with both international law and U.S. military practice in Afghanistan, and would lead to an inaccurate picture of the civilian toll from those strikes.<sup>38</sup>

The U.S. drone campaign is characterized by airborne target identification and BDA. These factors create opportunities for misidentification in irregular warfare, and increase the likelihood that civilians, including those misidentified as enemy, are not discovered by the U.S. Thus, it is likely that the U.S. government does not have a true picture of the actual scale of civilian harm from its drone campaign. Regarding operations in Pakistan and Yemen, the U.S. has frequently denied the presence of civilian casualties reported in the media. This resembles the situation in Afghanistan prior to mid-2009, where U.S. and international force military commanders were frequently confronted by reports of civilian casualties which differed from their own initial reports, as the above examples illustrate.

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<sup>36</sup> Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), 8 June 1977.

<sup>37</sup> Jo Becker and Scott Shane, “Secret ‘Kill List’ Proves a Test of Obama’s Principles and Will,” *The New York Times*, May 29, 2012, <http://www.nytimes.com/2012/05/29/world/obamas-leadership-in-war-on-al-qaeda.html?pagewanted=all>.

<sup>38</sup> While the legal framework for CT strikes in Pakistan is in debate, the international norm of the default status of individuals to be civilians in case of uncertainty would appear to be valuable to preserve. Erosion of this norm could eliminate the requirement for discrimination of targets in the context of counterterrorism operations.

It is important to note that the challenge of recognizing civilian harm from drone strikes in Pakistan can be even more challenging than it was in Afghanistan, due to the lack of U.S. boots on the ground and limited communication with local forces and communities. That said, the U.S. could seek to find ways to compensate for these additional challenges, for example, by partnering with third party organizations with a presence on the ground, or through increased reliance on leveraging human intelligence (HUMINT) to cue other intelligence sources to enhance BDA.

In both Afghanistan and the current drone campaign in Pakistan, the stated desire of the United States to minimize civilian harm was evidenced by statements such as “*We’ve done everything possible... to reduce any risk to that civilian population.*”<sup>39</sup> However, the ability of a military to do everything possible to avert civilian harm is limited by its ability to consistently recognize instances of civilian harm. If the problem of civilian harm is not recognized and well-understood, then the actual scale of civilian harm will be misunderstood and measures will not be put in place to address it effectively. Thus an assessment process to quantify levels of civilian harm is needed to ensure that U.S. efforts are truly minimizing civilian harm.

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<sup>39</sup> Dilanian, “Brennan defends U.S. drone attacks despite risks to civilians.”

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## Platform precision or comprehensive process?

In public statements defending drone use, there is often an association of the precise nature of the platform with the ability to engage intended targets without causing civilian harm. For example, one statement in the public debate on drones declares, “*Where civilian casualties cannot be avoided, they must be minimized. This is what drone strikes do.*”<sup>40</sup> This statement suggests that the selection of the drone platform to engage the enemy constitutes all the steps the U.S. needs to take in minimizing civilian harm. But in fact, this statement is incorrect for several reasons: it mistakes platform precision for a comprehensive process that minimizes civilian casualties. Moreover, it is contradicted by operational data.

### Precision versus process

Although drones have desirable capabilities such as precision weapons, persistence, and full motion capabilities for targeting and screening of collateral damage, these technical elements alone do not necessarily translate to surgical precision and the minimization of civilian casualties. Other factors also influence the likelihood of civilian casualties.<sup>41</sup>

This importance of the overall process—the collective impact of the different factors shaping individual engagement decisions on civilian casualty reduction—was discussed previously in the Joint Civilian Casualty Study (JCCS), which examined operations in Afghanistan for the U.S. military. A comprehensive approach to civilian casualty

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<sup>40</sup> Dr. Avery Plaw, “Drones Save Lives, American and Other,” *The New York Times*, November 14, 2012.

<sup>41</sup> The prolonged use of the Hellfire missile in drone strikes shows both adaptiveness with existing capabilities – using a missile originally designed for helicopters to attack tanks – and the at-times slow development of military capabilities to facilitate reduction of civilian casualties. Reducing and Mitigating Civilian Casualties: Enduring Lessons, JCOA, April 2013.

reduction and mitigation was envisioned, including a number of different steps in the civilian casualty “lifecycle,” as shown in figure 2.

- **Prepare:** Doctrine, professional military education, pre-deployment training and equipping, exercises, training and adaptation
- **Plan:** Mission planning, rehearsals, intelligence, pattern of life, and other information, as well as shaping the environment
- **Employ:** The use of force, tactical alternatives, application of rules of engagement and tactical directives
- **Assess:** Battle damage assessments, data collection and sharing
- **Respond:** Medical response, key leader engagement, media engagement, providing amends, other information activities
- **Learn:** Reporting, data management, data analysis, after action reviews, investigations, capturing and disseminating lessons<sup>42</sup>

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<sup>42</sup> Drs. Sarah Sewall and Larry Lewis, Joint Civilian Casualty Study, 2010.

Figure 2. A comprehensive process for reducing and mitigating civilian harm.



As the “lifecycle” illustrates, minimizing civilian casualties is less a matter of platform or ordnance selection as it is using an approach that considers factors that lead to civilian casualties and then effectively takes them into account. In particular, the contribution of learning to the minimization of civilian casualties during operations is missed when the attention is focused on the platform rather than the process. One example of the importance of learning in reducing civilian casualties was the reduction in Iraqi casualties from escalation of force incidents in 2005 and 2006. LTG Peter Chiarelli, the Multi-National Corps-Iraq commander, helped focus U.S. forces on primary causal factors to learn from past incidents and not repeat the same mistakes. Civilian casualties dropped significantly as a result.<sup>43</sup> Similarly, but on a larger scale, commanders in Afghanistan began tracking civilian casualties for all types of coalition-caused incidents,

<sup>43</sup> Reducing and Mitigating Civilian Casualties: Enduring Lessons, JCOA, April 2013.



using analysis to identify causal factors and reshape their guidance. For example, analysis of Coalition air operations, documented in the JCCS report, led to changes in the 2010 Commander, International Security Assistance Force (COMISAF) Tactical Directive, which then was seen to reduce the lethality of civilian casualty incidents. Overall, international observers such as the UN have acknowledged that the U.S. has made significant progress in reducing coalition-caused civilian casualties in Afghanistan.

While the progress in reducing civilian casualties in Afghanistan shows what is possible, to date the changes put into place have remained largely focused on supporting operations there. This may change: in 2013, the U.S. military proactively began to focus on institutionalizing key enduring lessons for the future force. However, sharing lessons in different operations and among allied countries is less apparent. For example, key lessons and best practices from Afghanistan were not known to NATO forces in Libya, forcing discovery learning. In addition, it is unclear whether lessons from Afghanistan have been applied to the U.S. drone campaign in Pakistan and elsewhere.

## **Operational data: Drones more likely to cause civilian harm**

Operational data confirms that reducing civilian casualties depends on the entire engagement process, including planning and training considerations, not simply on the characteristics of the weapon platform. Analysis of data from Afghanistan showed that several forms of attack, including engagements by manned air platforms, were less likely to cause civilian casualties than drone strikes, highlighting the fact that platform characteristics alone are not the driver of a decreased likelihood of civilian casualties.<sup>44</sup>

The discussion of process shows how analysis and assessment can provide insight into trends and highlight the root causes of civilian casualty incidents. In a separate paper, we will present a model for an assessment process, including root cause analysis of a real-world

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<sup>44</sup> Drone Strikes: Civilian Casualty Considerations, JCOA, June 2013.

civilian casualty incident, and outline how the process can be used to better minimize civilian harm.

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## The drone campaign and civilian harm

Congress has debated whether the drone campaign should be shifted entirely to the U.S military or whether it should continue to be conducted in part by another element of the U.S. government. There are many considerations for this decision, one of which is the ability of the organization leading the drone campaign to minimize civilian harm in its conduct of the campaign. One question that could be asked is, how well is the current drone campaign in Pakistan doing in minimizing civilian harm?

Table 1 shows the total number of drone strikes (engagements), the numbers of civilians killed, and the number of strikes that resulted in civilian casualties (civilian casualty incidents) from the two data sources—BIJ and NAF. For NAF, two sets of numbers are provided – one including only confirmed civilians (“NAF”), and one including unknown casualties to treat them as dictated per international law (“NAF-2”). The table also includes the calculated average number of civilians killed per drone strike, the percentage of engagements that caused civilian casualties, and the average number of civilians killed in civilian casualty incidents.

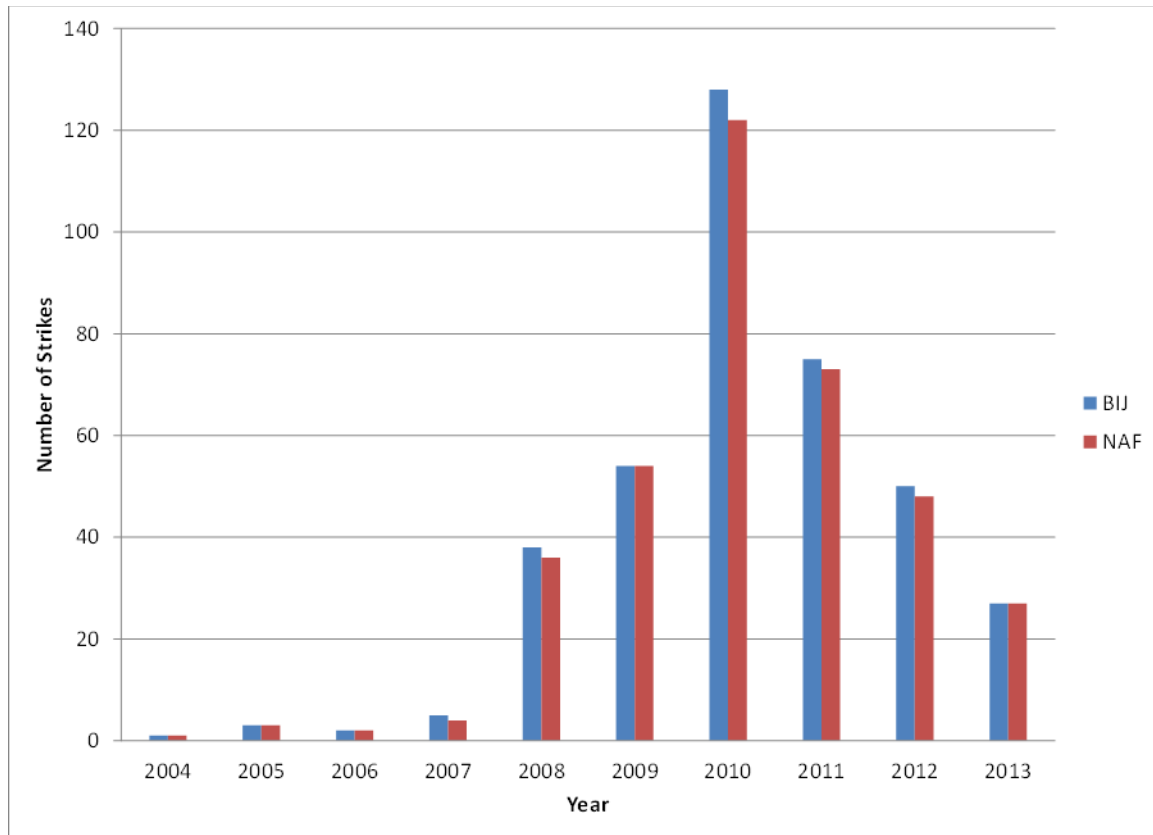
Table 1. Overall statistics for drone strikes in Pakistan.

| <b>2004–2013</b>                                | <b>BIJ</b> | <b>NAF</b> | <b>NAF-2</b> |
|---|------------|------------|--------------|
| Overall drone strikes (engagements)             | 383        | 370        | 370          |
| Civilians killed (CIV K)                        | 416        | 258        | 456          |
| Strikes where CIV were killed (CIV K incidents) | 75         | 32         | 75           |
| Average CIV K per engagement                    | 1.1        | 0.7        | 1.2          |
| CIV K incidents per engagement (%)              | 20%        | 9%         | 20%          |
| CIV K per CIV K incident                        | 5.5        | 8.1        | 6.1          |

Table 1 indicates that, on average, about one civilian has been killed by each drone strike from the inception of the campaign. BIJ and the adjusted NAF databases agree on the rates of strikes causing civilian

casualties, with one in every five strikes killing civilians. For these strikes, between 5 and 6 civilians are killed on average.

Figure 3. Number of drone strikes in Pakistan per year.



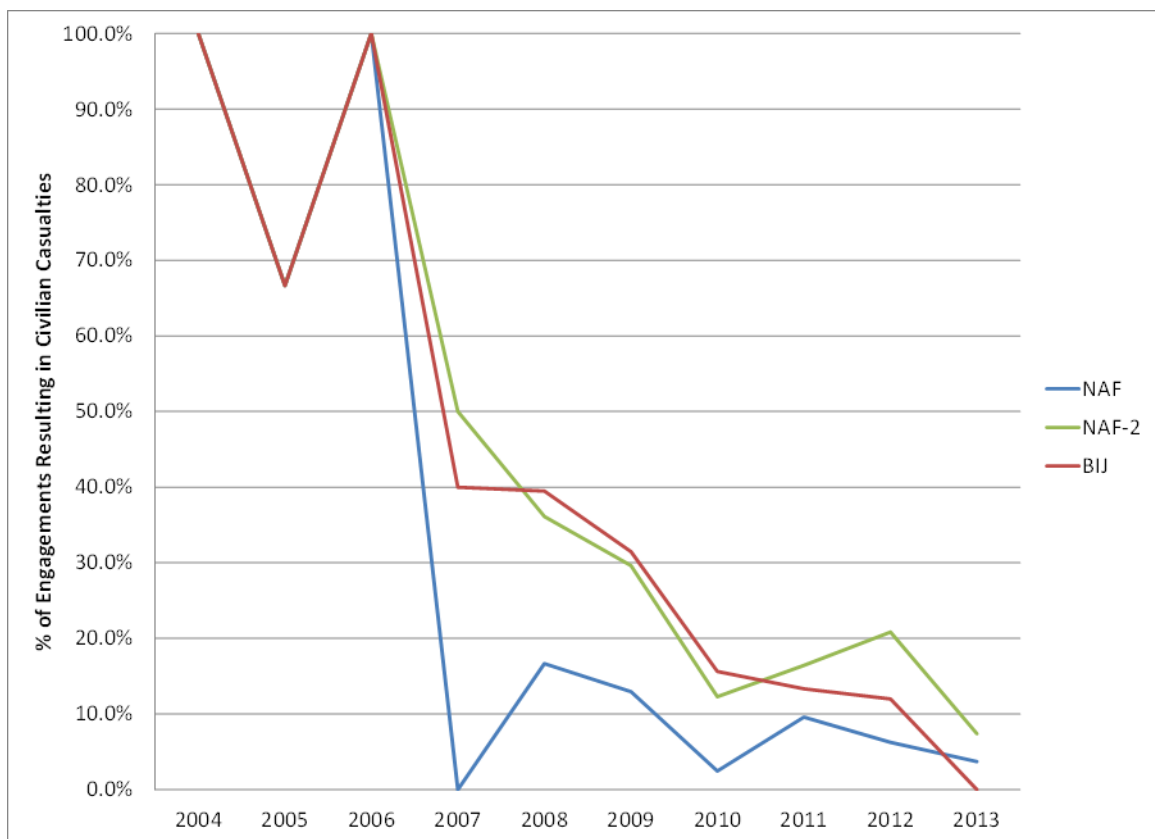
Of course, the U.S. drone campaign in Pakistan was not consistent in the number of strikes over time. It was carried out at a low initial rate, then increased significantly in 2008, peaked in 2010, and then tapered off gradually over the next few years. Accordingly, it is instructive to examine characteristics from different time periods.

For strikes pre-2008, this time period was characterized by very few strikes, with a high likelihood of civilian casualties per engagement (64 percent and 70 percent for BIJ and the adjusted NAF, respectively) and a high average civilian toll for incidents where civilians were killed. Starting in 2008 through 2009, the number of strikes increased significantly, and the rate of civilian deaths per engagement drops significantly (34 percent for BIJ, versus 32 percent for adjusted NAF). Starting in 2010, the rate of engagements causing civilian deaths

drops to about 13 percent for BIJ and 14 percent for adjusted NAF. During this time period, an average of one civilian was killed for about every two drone strikes, and the civilian toll for incidents that caused civilian casualties was about 4 per incident.

It is also helpful to plot key metrics over time. A useful metric is the percent of operations resulting in civilian deaths, showing the average likelihood that a drone strike will result in civilian deaths. This is shown below in figure 4.

Figure 4. Percent of operations resulting in civilian deaths per year.



As seen above, the rate of civilian deaths per drone strike decreased over time, with rates generally below 20 percent starting in 2010 for both BIJ and adjusted NAF, and below 10 percent for 2013. We note general close agreement between BIJ and the adjusted NAF where 'unknown' status casualties are included, treating these casualties as

civilian as prescribed in international law.<sup>45</sup> Collectively, U.S. drone strikes are seen to have become less likely to cause civilian deaths over time.

However, it appears that there is still room for improvement. These civilian casualty rates are significantly higher than those seen for drone and overall counterterrorism operations in Afghanistan conducted by U.S. and international forces. While rates for the two countries are not necessarily directly comparable, the operations in Afghanistan illustrate that lower rates can be achieved during counterterrorism operations in general.

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<sup>45</sup> However, media and other reporting on civilian casualties using NAF tends to neglect the “unknown” category of casualties. For example, CNN reported “today, for the first time, the estimated civilian death rate is at or close to zero” when the adjusted rate was higher than in the previous two years. Peter Bergen and Jennifer Rowland, Civilian casualties plummet in drone strikes, CNN, July 2013. In another example, the Brookings Institution uses NAF as its data source on Pakistan drone strikes in its Afghanistan indicators publication, and these totals include only confirmed civilians. Ian S. Livingston and Michael O’Hanlon, “Afghanistan Indicators” Brookings Institution, August 27, 2013, <http://www.brookings.edu/~media/Programs/foreign%20policy/afghanistan%20index/index20130827.pdf>.

## **Assessment: a key element in demonstrating concern**

Overall, it is both possible and worthwhile for the U.S. to conduct an independent assessment of civilian casualties resulting from drone strikes in Pakistan and elsewhere. The results of this assessment can both inform refinements that improve the ability to reduce civilian harm in the future, as well as improve estimates that can be given to the legislative and executive branches to support improved transparency and enable improved oversight of these operations. In addition, this would help ensure that official U.S. statements are in line with operational realities, helping to guard the reputation of the U.S.

## **Demonstrating concern through consequence management**

In addition to this step, a process could be put into place to respond to U.S.-caused civilian casualties with consequence management actions, including amends, when they occur from such strikes. This practice could use existing programs in a way similar to U.S. measures taken in Afghanistan, and consistent with recent legislation governing military operations.

In Afghanistan around 2009 and onward, U.S. forces placed attention not only on reducing civilian casualties, but also responding to them in a moral and operationally effective way when they occurred. When civilian harm was an unintentional result of U.S. operations, often the U.S. offered an apology. The U.S. provision of monetary payments or other amends, typically offered without admission of legal culpability, assisted families dealing with the financial and emotional components of their loss, and reinforced the reputation of the U.S. as a nation that respects and upholds the lives of civilians.<sup>46</sup> This process

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<sup>46</sup> This is consistent with a number of operations over the past century, where the U.S. offered compensation or aid to mitigate the impact of its actions.



also yielded operational benefits for U.S. forces in more freedom of movement and willing support from the population.<sup>47</sup>

In Pakistan, the U.S. offers a program that aids communities impacted by conflict: the Conflict Victims Support Program, which provides rehabilitation and livelihood assistance. However, U.S. drone strike victims and their families are not currently covered by this program. Similarly, there is no U.S. aid for conflict victims in Yemen or other places where drones operate. Such an effort could be conducted in partnership with other organizations to avoid a direct U.S. role, for example, the government of Pakistan or nongovernmental organizations. Besides being a display of U.S. concern for civilians, this would also aid the U.S. in accurately identifying and estimating civilian casualties. Further, adversaries that routinely exploit U.S.-caused casualties to discredit or tarnish the reputation of the U.S., and use this issue to solicit support for their cause, would find their case weakened if the U.S. were to provide amends to civilian harm it caused.

Collectively, an assessment process for civilian harm, coupled with measures to address such harm when it is caused, would demonstrate the U.S. concern for civilians while also reducing grievances that can exacerbate threats to the U.S. in the longer term. These initiatives would help the U.S. to demonstrate its stated commitment to the responsible use of force and to do all it can to minimize civilian harm in its operations.

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<sup>47</sup> This would also enable assessments of the accuracy of collateral damage estimates; the need for this will be discussed in a forthcoming paper.

## Conclusions

The debate on the drone campaign has unfortunately focused on the platform rather than the key issues at play: the legality of the use of force outside of declared theaters of conflict, and the ability of the U.S. to limit the civilian toll from the use of force in those operations.<sup>48,49</sup> Importantly, these two issues are distinct and can be debated and addressed separately – the first is a legal issue with a long timeline to resolve, while the second – the subject addressed in this paper – is a policy issue that is within the U.S. government’s ability to act on quickly. Efforts to limit the civilian toll of the U.S. drone campaign do not need to be delayed simply because of disputes over other aspects of the drone campaign. Specifically, the U.S. could immediately undertake an independent assessment of its drone operations in Pakistan, including a specific priority to analyze civilian casualties, promote civilian harm response, and address challenges in the targeting process that may put civilians in danger unnecessarily.

Such a move would have several benefits. By working to reduce civilian casualties in U.S. operations, this could reduce the extent of radicalization and support to threats to the U.S. and its interests. At the same time, operations with lower levels of civilian casualties would help maintain needed freedom of action for future operations, promoting the ability to respond to imminent threats over the longer term. Such an effort would also help fulfill the U.S. public commitment to do everything possible to minimize civilian harm as a result of its operations. This alignment of practice and principle reinforces

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<sup>48</sup> While there are other issues that can be debated, such as the appropriate role of automated systems in warfare, these two issues seem to be the primary concerns in the current public debate on the U.S. drone campaign.

<sup>49</sup> In her blog, Professor Charli Carpenter discusses additional considerations for decomposing the key issues under debate with regard to the use of drones. Parsing the Anti-Drone Debate, 12 November 2013 <http://www.whiteoliphaunt.com/duckofminerva/2013/11/parsing-the-anti-drone-debate.html>

the moral authority of the United States, enabling its continued global leadership.

## Recommendations

**Conduct an independent U.S. government review of civilian harm in drone strikes, including a revised estimate of civilian casualties:** U.S. drone strikes, past and present, should be analyzed to identify both levels and root causes of civilian harm.

- **Determine numbers and trends:** The U.S. should review possible civilian harm in cases where there is credible evidence of such harm. This review would include information sources available to the U.S., such as video feeds and available intelligence, as well as those provided by other government and international organizations concerning these incidents. Such reviews were done for some incidents in Afghanistan; with modifications, a similar process is feasible for U.S. drone strikes in Pakistan. These numbers can then be used to determine trends, similar to what was done in this paper, providing a baseline to enable assessment of possible progress and highlighting areas of particular concern. To be consistent with international law, numbers should include both confirmed civilians and casualties whose status has not been conclusively determined.
- **Assess root causes of civilian harm:** A key element to reducing civilian casualties in Afghanistan was analysis of individual incidents to determine causal factors. When these causal factors were considered collectively, they helped to focus efforts for reducing civilian harm to areas that were most productive. This process, which was conducted for ISAF and Operation Enduring Freedom commands, could easily be replicated for the U.S. drone campaign: a review process (similar to a safety investigation conducted by the U.S. military) could be conducted for instances of possible civilian harm, to try and determine the likelihood of civilian harm and the causal factors for the incident. Periodic reviews would then consider these causal factors and identify ways to systematically address them.

**Make civilian harm a component of congressional oversight for drone operations.** Congress plays a role in shaping and validating U.S. policy through its oversight activities. For any operation that involves the use of force, the issue of civilian casualties is a critical component to consider, as recent history has shown that civilian harm can derail a campaign or undermine U.S. objectives if not handled effectively. The importance of this issue is only likely to increase, due to the growing transparency of overseas operations, greater scrutiny by external actors, higher expectations for the U.S. and its conduct of operations, and exploitation of civilian casualties by others in order to undermine the U.S. and oppose its interests. These realities point to the need for Congress to monitor civilian harm in periodic assessments of operations, along with other appropriate indicators of mission effectiveness.

**Apply Afghanistan civilian casualty reduction best practices to the U.S. drone campaign:** ISAF and U.S. operations in Afghanistan have made significant progress in reducing civilian casualties while maintaining mission effectiveness, including development of revised training, doctrine, tracking and analysis systems, weapons, and formalized responses to civilian harm. A number of these best practices and lessons could be applied to the conduct of the drone campaign outside Afghanistan. U.S. government elements conducting this campaign, including both leaders and elements responsible for executing operations, should seek out these lessons and best practices. The U.S. military's Joint Staff J7 Directorate, which recently led the Joint Staff Civilian Casualty Working Group, is a good source for these lessons.

- **Resolve previously identified challenges associated with drones with respect to civilian casualties, as observed in Afghanistan operations.** One aspect of applying lessons to the drone campaign is focusing on lessons from previous analysis of U.S. and coalition drone/UAV operations from Afghanistan, and examining to what extent the same lessons and contributing factors apply. These specific areas should be addressed in order to ensure that the U.S. can minimize the risk of civilian casualties from drone strikes, since civilian casualty rates for drone strikes were markedly higher than that for manned aircraft and other types of engagements.

**Expand U.S. programs for victims of conflict, to include the drone campaign:** The U.S. routinely offered monetary payments, livelihood aid, and medical assistance to civilians harmed by its combat operations in Iraq and Afghanistan. The U.S. maintains the Conflict Victims Support Program, which provides rehabilitation and livelihood assistance to conflict victims in Pakistan. However, U.S. drone strike victims are not currently covered by this program. Similarly, there is no U.S. aid for conflict victims in Yemen or other places where drones operate. Such assistance, offered without admission of legal culpability, would both assist families impacted by drone strikes and reinforce the reputation of the U.S. as a nation that respects and dignifies civilian losses during conflict. This assistance could also help address grievances and exploitation of U.S.-caused casualties, thereby helping to reduce security threats to the U.S. in the longer term.

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## List of figures

|  |    |
|--|----|
| Figure 1. Disparate Estimates for Civilian Deaths from Drone<br>Strikes in Pakistan..... | 13 |
| Figure 2. A Comprehensive Process for Reducing and Mitigating<br>Civilian Harm.....      | 27 |
| Figure 3. Number of drone strikes in Pakistan per year.....                              | 32 |
| Figure 4. Percent of Operations Resulting in Civilian Deaths per<br>Year. ....           | 33 |



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# List of tables

Table 1. Overall statistics for drone strikes in Pakistan.....31

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